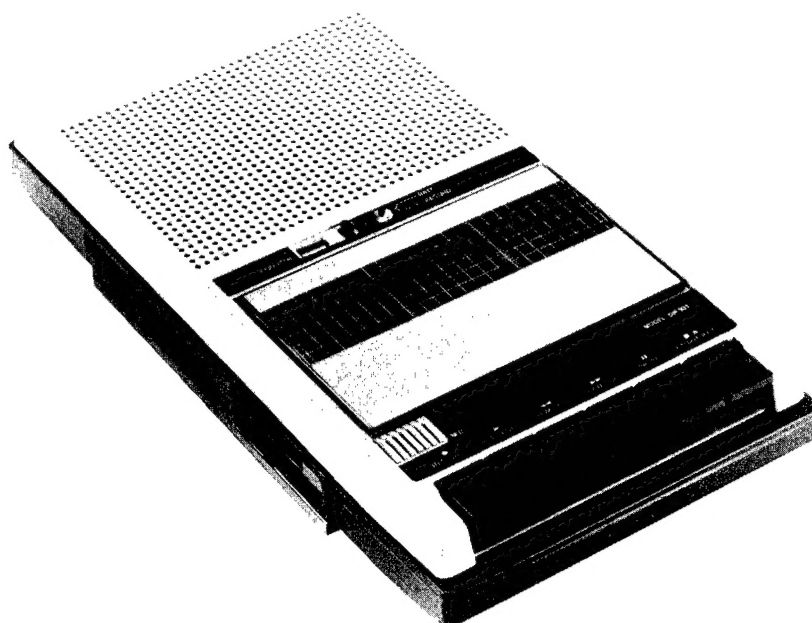


SERVICE MANUAL

PORTABLE CASSETTE RECORDER



DR101
EUROPE



142 344 11

SPECIFICATIONS

Power Source		Torque	
AC	220V (50Hz)	Playback	30 ~ 55g-cm
DC	6V (Babyzelle, R 14 x 4)	Fast Forward	More than 55g-cm
Output Power	550mW (Max.)	Rewind	More than 55g-cm
Power Consumption	5W	Frequency Response	
Current Consumption (at Vol. Min.)		(Overall, Normal mode)	250Hz ~ 6,300Hz
Record mode (with Metal)	160mA	Erase Ratio (Overall)	More than 40dB
Playback mode	160mA	Signal to Noise Ratio	More than 32dB
Fast Forward mode	170mA	Crosstalk	
Rewind mode	170mA	Track to Track	More than 50dB
Recording System		Harmonic Distortion	Less than 10%
Erasing System	Magnet Erasing	Hum & Noise (at Vol. Min.)	-53dBs
Tape Speed	1-7/8ips. $\pm 3\%$	Terminal Impedance	
Wow & Flutter	0.25%, WRMS	MIC.	4.7k Ω
Fast Forward Time	120sec. (with C-60)	Earphone	6 Ω
Rewind Time	120sec. (with C-60)	Dimensions	142.5(W) x 50.5(H) x 269(D)mm
		Weight	930g

—Specifications subject to change without notice.—

WM-10133

NOTE:

The above mentioned specifications are mainly based on the IHF measurements standard. They can therefore not directly be compared with specifications based on the DIN standard or other standards.

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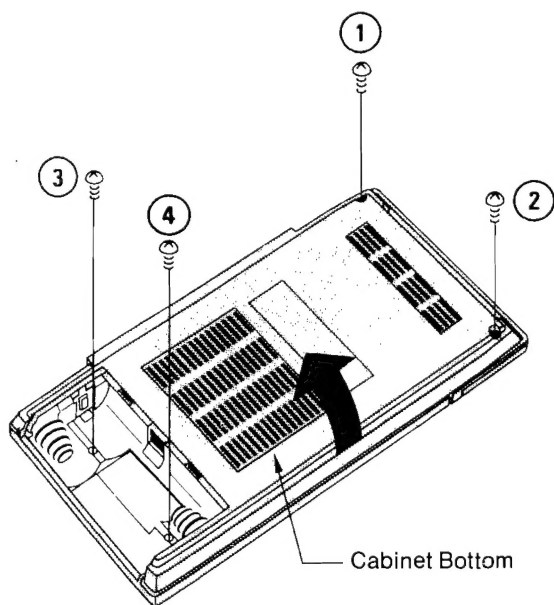
DISASSEMBLY INSTRUCTIONS

GENERAL REMARKS

- Before disassembling the unit, spread a soft rubber mat or a cloth on the work bench to avoid scratches and grease stains.
- Do not spread anything which is likely to cause static electricity because transistors and ICs may be easily damaged by it.
- Reassemble the unit, noting the kinds of screws and the soldering and arrangement of the leads. Refer to "Circuit Diagram and Exploded Views" for correct assembly.
- Before disassembling the unit, take out the cassette tape and the batteries.

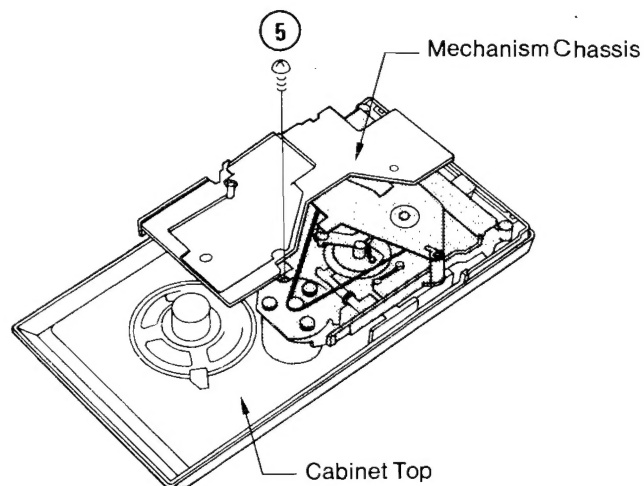
CABINET BOTTOM REMOVAL

1. Detach the battery compartment lid and remove the four screws (1 ~ 4) fastening the Cabinet Bottom.
2. Detach the Cabinet Bottom by lifting it in the direction of the arrow and the Handle can be removed.
3. Reassemble in reverse order.



MECHANISM CHASSIS REMOVAL

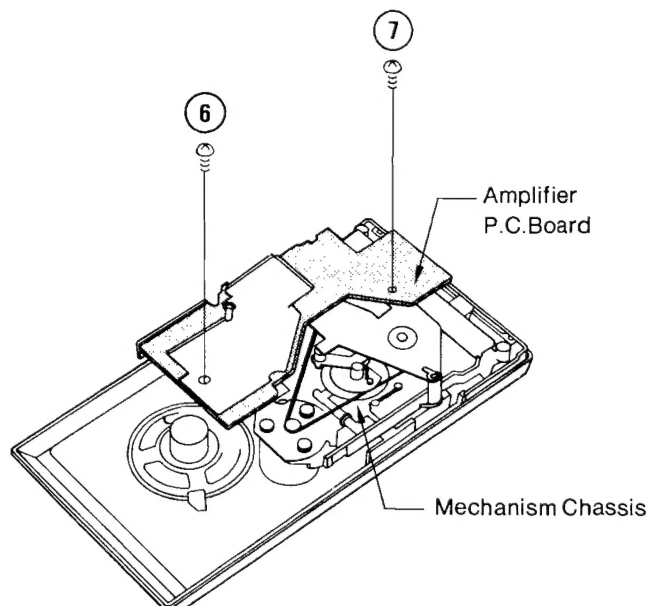
1. Detach the Cabinet Bottom by following the instructions for it.
2. Unsolder the following leads from the Amplifier P.C.Board.
 - Two leads (red and black) of the built-in microphone
 - Two leads (pink and sky-blue) of the Speaker
 - Three leads (blue, red and black) of the Record/Battery Indicator
3. Remove the screw (5) and detach the Mechanism Chassis together with the P.C.Board by lifting it from the Cabinet Top.



4. Reassemble in reverse order.

AMPLIFIER P.C.BOARD REMOVAL

1. Detach the Cabinet Bottom by following the instructions for it.
2. Unsolder the following leads from the Amplifier P.C.Board.
 - Three leads (blue, red and black) of the Record/Battery Indicator
 - Two leads (red and black) of the Motor
 - White lead for the ground
3. Detach the Amplifier P.C.Board by lifting it in the direction of the arrow.



4. Reassemble in reverse order.

ADJUSTMENT PROCEDURES

GENERAL REMARKS

- Before the adjustments, wipe off stains on the tape contacting surfaces of the parts, the belt and pinch roller with a soft cloth soaked in alcohol. Trouble may occur because of oil and grease stains.
- Carefully handle the belt because grease easily attaches to it.
- Check the rubber-used parts, If the rubber has quality deterioration or scratch marks, replace the part with a new one.

EQUIPMENT REQUIRED

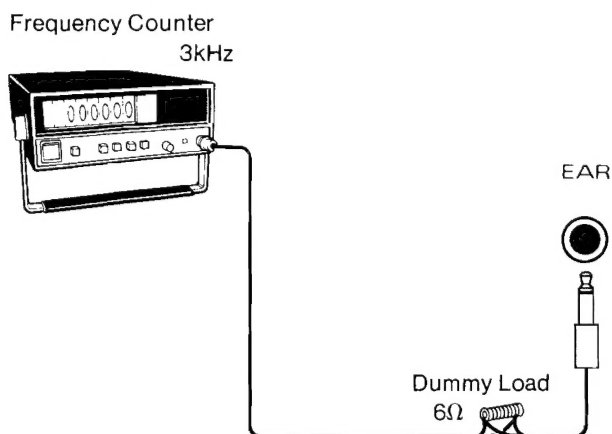
- VTVM
- Frequency Counter
- Dummy Load (6Ω)
- DC Constant-voltage Regulator
- Test Tapes
 - * 3kHz Test Tape (Example: TEAC MTT-111) for Tape Speed Adjustment
 - * 8kHz Test Tape (Example: TEAC MTT-113C) for Head Azimuth Adjustment
- Alignment Tool

NOTE:

1. When adjusting supply 6.0V DC from the constant-voltage regulator to the Ext. Power Jack.
2. Before performing the adjustment, set the controls and switches as follows:
 - * Mode Switch NORMAL
 - * Phase Control Switch NORMAL

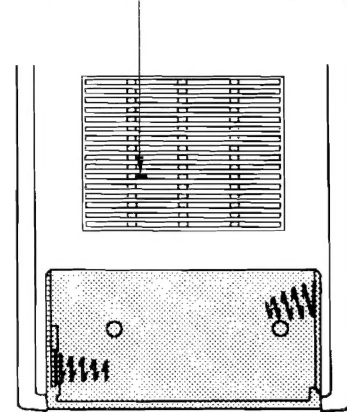
TAPE SPEED ADJUSTMENT

1. Connect a frequency counter to the earphone jack as illustrated and insert a 3kHz test tape (Example: TEAC MTT-111) into the cassette compartment.



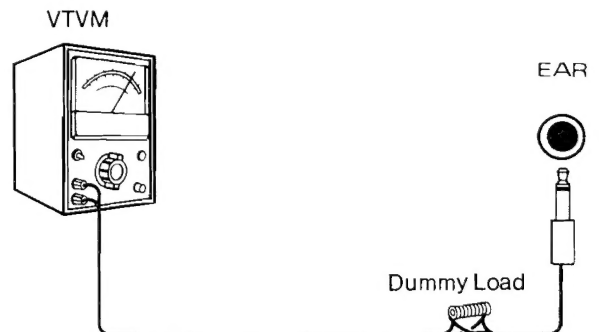
2. While playing back the test tape, adjust the potentiometer P1 by turning it through the adjusting hole of the Cabinet Bottom with an alignment tool until the counter reads 3kHz.

Potentiometer (P1) for Tape Speed Adjustment

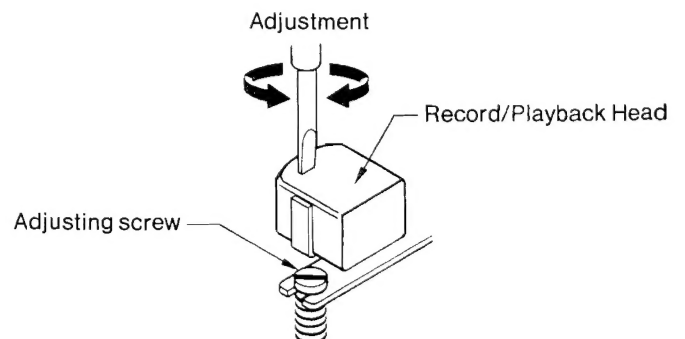


HEAD AZIMUTH ADJUSTMENT

1. Connect a VTVM to the earphone jack as illustrated and insert a 8kHz test tape (Example: TEAC MTT-113C) into the cassette compartment.



2. While playing back the test tape, turn the azimuth adjusting screw until the VTVM reads the maximum.



3. After the adjustment, secure the adjusting screw with paint or glue.

PARTS LIST

Ref. No.	Part No.	Description	Q'ty
PACKAGE			
	141 6 1419 54207	Individual Carton	1
	141 6 1449 71900	Case, Right	1
	141 6 1449 72000	Case, Left	1
	141 6 2519 10020	Poly Cover 100 x 200	1
	141 6 2519 12790	Poly Cover	1
	141 6 4559 00100	Serial No. Sheet	3
ACCESSORIES			
	△ 4 2439 70310	Power Cord	1
	142 6 4119 18407	Instruction Book	1
CABINET			
	141 2 4729 05300	Wire Band	2
CA1	4 2029 70760	LED, SLP-520D (Record/Battery) [D3]	1
CA2	141 2 1249 25109	Cassette Lid	1
CA3	141 2 4419 07203	Cushion	2
CA4	141 2 1719 24501	Handle	1
CA5	141 0 1119 76804	Cabinet Top Assy	1
	4 1539 70610	Microphone [BM1] (Included in CA5)	1
CA6	4 2269 35163	PCB, LED	1
CA7	4 1519 70830	Speaker (6Ω) [SP1]	1
CA8	141 2 3729 00700	Fix Speaker Bracket	2
CA9	141 2 3719 05300	Bracket, Trans	1
CA10	141 2 4469 35300	Cushion	1
CA11	△ 4 2519 73222	Power Trans [T1]	1
CA12	141 2 4469 17200	Cushion	3
CA13	4 1329 76717	Amplifier P.C.B. Assy [See PCB1]	1
CA14	141 2 2419 27700	Sheet	1
CA15	141 2 1659 02301	Button	1
CA16	141 2 1639 38800	Volume Knob	1
CA17	141 2 4729 04200	Lug	1
CA18	141 2 3229 30700	Shield Plate	1
CA19	141 0 1339 10401	Battery Lid Assy	1
CA20	141 2 4729 00200	Lug	1
CA21	△ 4 2359 72800	AC Socket [J2]	1
CA22	141 2 4359 14400	Cover Socket	1
CA23	141 0 1119 76901	Cabinet Bottom Assy	1
CA24	141 2 4219 16000	Screw	2
CA25	141 2 1419 11945	Rating Plate	1
CX1	101 3 1702 00411	Screw, Bind Hd. +M2.0x4	1
CX2	102 3 1302 61011	Screw, Pan Hd. Tapping-1 +M2.6x10	2
CX3	102 3 1303 01211	Screw, Pan Hd. Tapping-1 +M3.0x12	2
CX4	102 3 1303 01411	Screw, Pan Hd. Tapping-1 +M3.0x14	2
CX5	102 3 1303 01611	Screw, Pan Hd. Tapping-1 +M3.0x16	1
CX6	103 3 1303 00611	Screw, Pan Hd. Tapping-2 +M3.0x6	1
CX7	103 3 1303 00811	Screw, Pan Hd. Tapping-2 +M3.0x8	2
CX8	110 3 1102 60110	Small Round Washer M2.6	1
CX9	110 3 1202 60011	Finished Washer M2.6	1
CX10	110 3 9260 80152	Fiber Washer M2.6x8.0x1.5	1

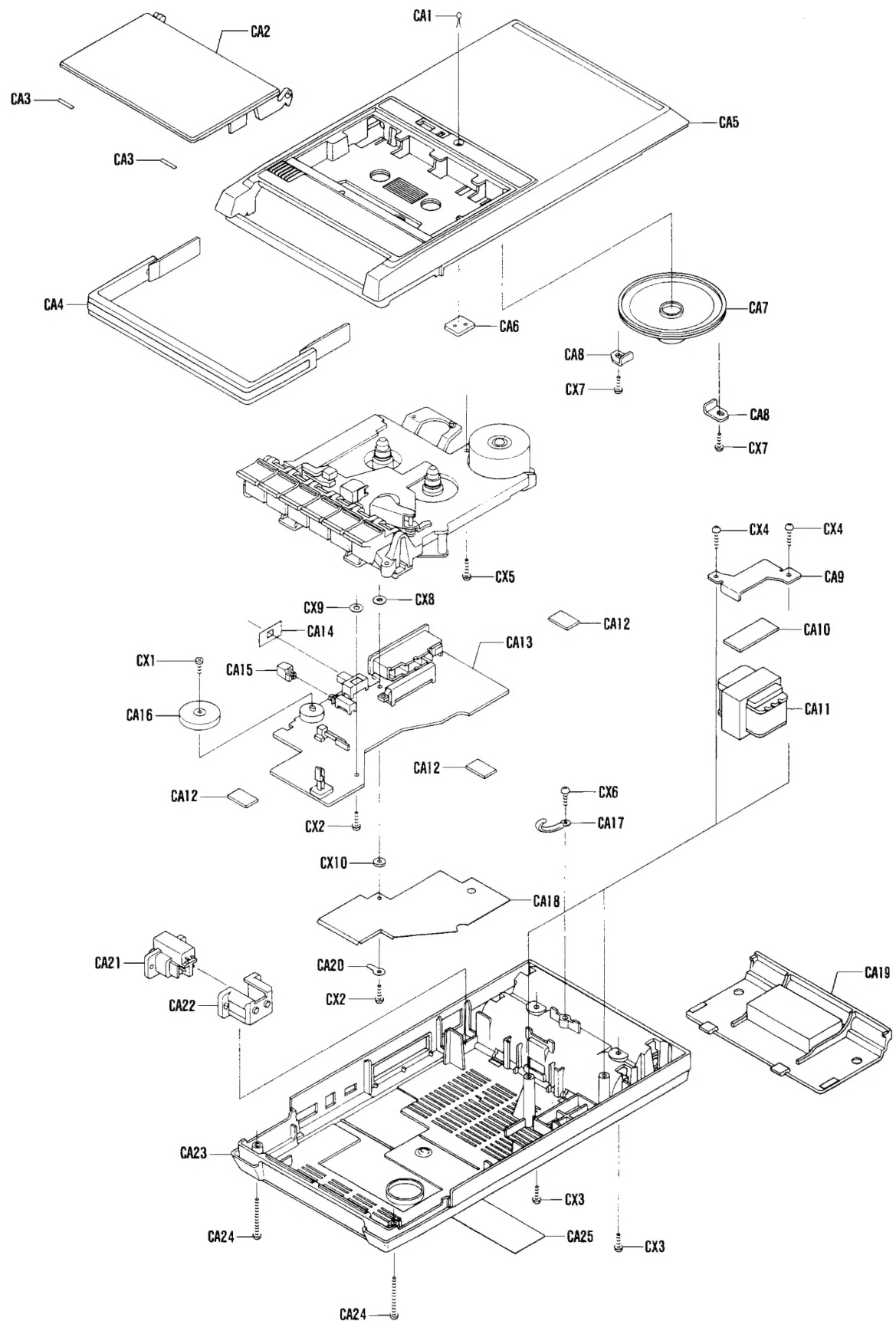
NOTES:

- Parts order must contain Model Number, Part Number and Description.
- Ordering quantity of screws and resistors must be multiple of 10 pcs.

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol △ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with △, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

CABINET EXPLODED VIEW

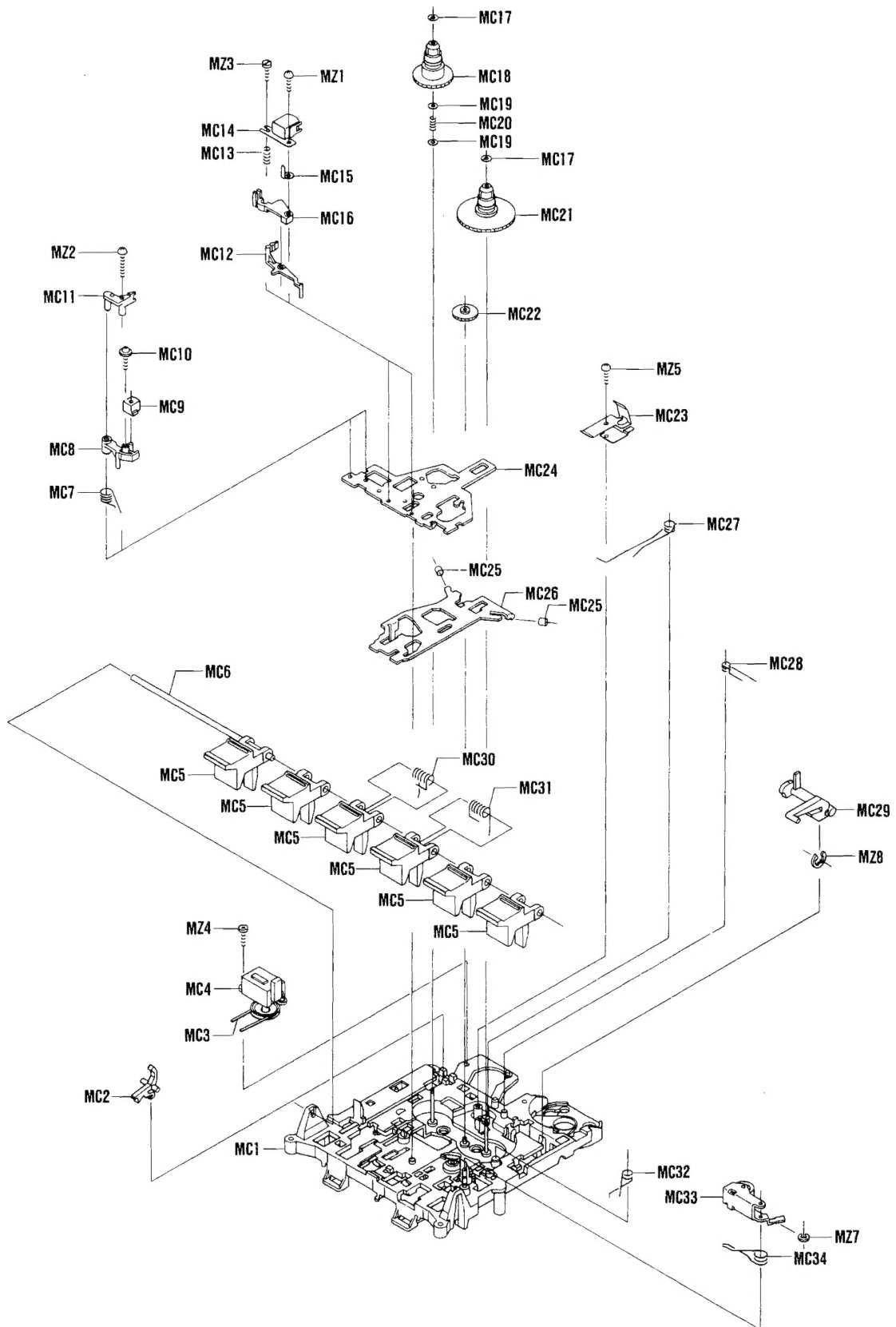


MECHANISM PARTS LIST

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
MECHANISM				MC64	141 2 8519 98100	Spring, Record Lever	1
MC1	141 0 3119 18903	Chassis Assy	1	MC63	141 2 8519 98000	Spring, Play Lever	1
MC2	141 2 8419 10400	Interlock Lever	1	MC65	4 5279 71051	Motor [M1]	1
MC3	141 2 5649 17900	Counter Belt	1	MC66	141 2 4539 17200	Washer	1
MC4	141 2 8119 00804	Counter	1	MZ1	101 3 1302 00611	Screw, Pan Hd. +M2.0x6	1
MC5	141 2 1619 88202	Select Button	6	MZ2	101 3 1302 01211	Screw, Pan Hd. +M2.0x12	1
MC6	141 2 6129 04700	Spindle Button	1	MZ3	101 3 3702 00611	Screw, Bind Hd. -M2.0x6	1
MC7	141 2 8519 97100	Spring, Erase Head	1	MZ4	103 3 1702 00811	Screw, Bind Hd. Tapping-2 +M2.0x8	1
MC8	141 2 7439 21600	Erase Head Arm	1	MZ5	143 3 1302 60811	Screw, Pan Hd. Tapping-B +M2.6x8	1
MC9	4 2429 71240	Erase Head [HD2]	1	MZ6	143 3 1702 60818	Screw, Bind Hd. Tapping-B +M2.6x8	1
MC10	141 2 4219 13200	Screw w/Washer	1	MZ7	112 3 1302 00082	E Ring M2.0	1
MC11	141 2 8219 28500	Tape Guide	1	MZ8	112 3 1304 00082	E Ring M4.0	1
MC12	141 2 7419 68800	Sensor Lever	1	NOTES:			
MC13	141 2 8519 47400	Spring, Head	1	1. Parts order must contain Model Number, Part Number and Description.			
MC14	4 2429 71121	R/P Head [HD1]	1	2. Ordering quantity of screws and resistors must be multiple of 10 pcs.			
MC15	141 2 4729 01900	Lug	1				
MC16	141 2 3529 27500	Spacer, Head	1				
MC17	141 2 4539 15700	Washer	2				
MC18	141 0 5319 05401	Supply Reel Assy	1				
MC19	141 2 4539 09400	Washer	3				
MC20	141 2 8559 00100	Spring, Supply	1				
MC21	141 0 5319 05300	Take-up Reel Assy	1				
MC22	141 2 5519 36400	F.FWD Gear	1				
MC23	141 2 8539 41100	Spring, Cassette	1				
MC24	141 2 7319 43200	Slide Base	1				
MC25	141 2 4459 25200	Brake Cover	2				
MC26	141 2 7419 69500	Brake Arm	1				
MC27	141 2 8519 96800	Spring, Idler Arm	1				
MC28	141 2 8519 96900	Spring, Cassette-up	1				
MC29	141 2 7419 68700	Cassette-up Lever	1				
MC30	141 2 8519 96600	Spring, Rewind Button	1				
MC31	141 2 8519 96601	Spring, F.FWD Button	1				
MC32	141 2 8519 97800	Spring, Pause Lock	1				
MC33	141 0 5419 03200	Pinch Roller Assy	1				
MC34	141 2 8519 97200	Spring, Pinch Roller	1				
MC35	141 2 8519 97000	Spring, Brake	1				
MC36	141 2 7419 69400	Shut-off Lever	1				
MC37	141 2 8519 97600	Spring, Lever ASD	1				
MC38	141 2 7419 69000	Pause Lever	1				
MC39	141 2 8519 51600	Spring, Lock Plate	1				
MC40	141 2 7419 68900	Stop Eject Lever	1				
MC41	141 2 8519 39300	Spring, Slide Base	1				
MC42	141 2 5519 36601	Capstan Gear	1				
MC43	141 2 8519 98200	Spring, Flywheel	1				
MC44	141 2 5649 19800	Capstan Belt	1				
MC45	141 0 5219 07202	Flywheel Assy	1				
MC46	141 2 8519 56201	Spring	1				
MC47	141 2 4729 00200	Lug	1				
MC48	141 0 3519 18901	Flywheel Support Assy	1				
MC49	141 2 7319 43100	Lock Plate	1				
MC50	141 2 4539 15800	Washer	1				
MC51	141 2 4539 12100	Spindle Washer	2				
MC52	141 2 5519 36701	Idler Pulley Gear	1				
MC53	141 0 7439 09300	Idler Arm Assy	1				
MC54	141 2 7419 69200	Record Lever	1				
MC55	141 2 8519 97900	Spring, Base	1				
MC56	141 2 7419 69100	Play Lever	1				
MC57	141 2 8519 33000	Spring, Index Lock Lever	1				
MC58	141 0 7439 09200	Take-up Arm Assy	1				
MC58-1	141 2 4539 05500	Washer	1				
MC59	141 2 5519 36500	Take-up Gear	1				
MC60	141 2 4219 22000	Screw	3				
MC61	141 2 4459 25100	Cushion, Motor	3				
MC62	141 2 8519 97300	Spring, Interlock	1				

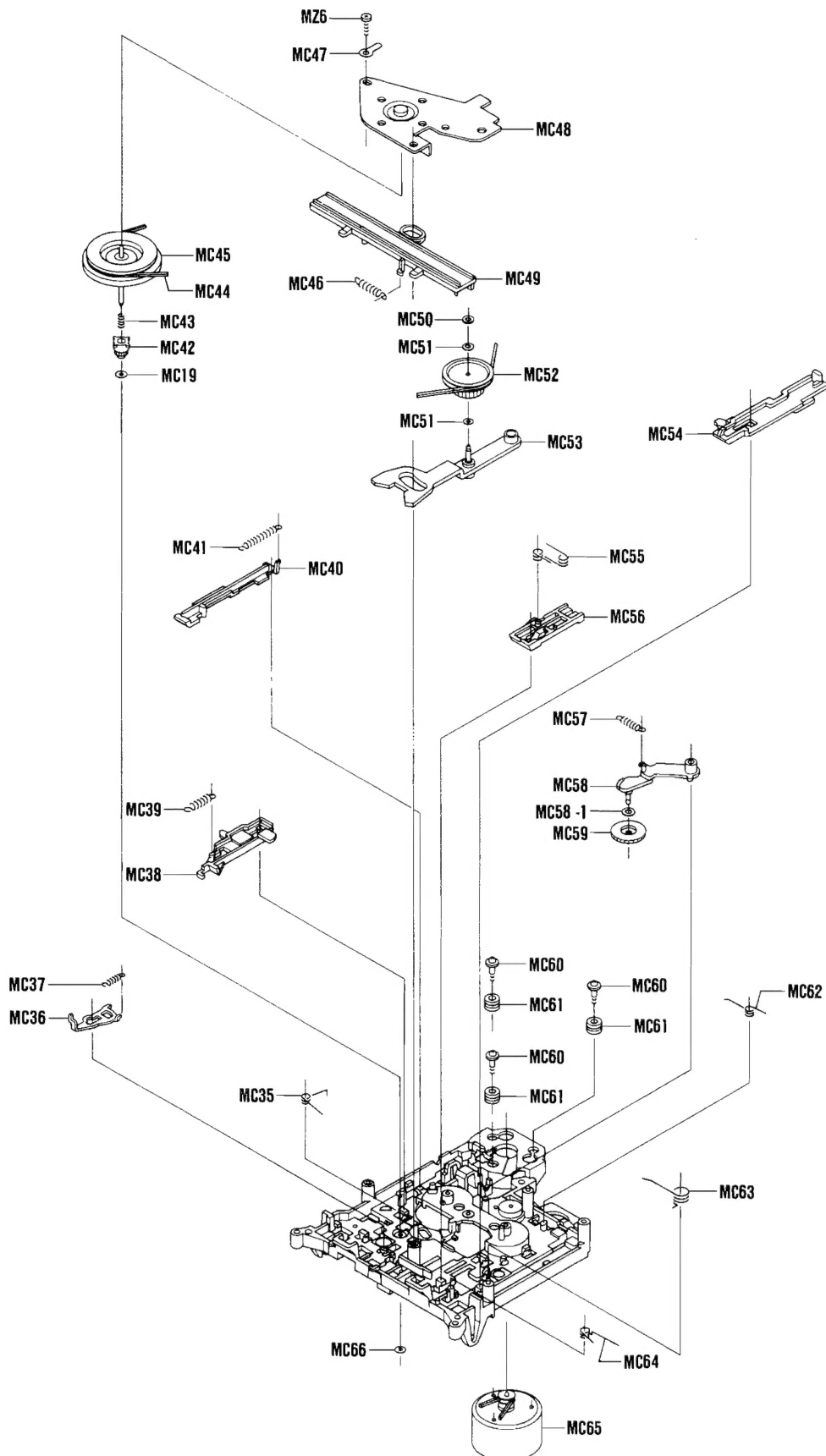
MECHANISM EXPLODED VIEW

(Chassis Top)



MECHANISM EXPLODED VIEW (Continued)

(Chassis Bottom)



P.C.BOARD PARTS LIST

Ref. No.	Part No.	Description	Q'ty
AMPLIFIER P.C.B. ASSY			
PCB1	4 1329 76717	Amplifier P.C.B. Assy	1
VR1	4 2229 71960	Control Volume (A-50kΩ)	1
	141 2 4729 04700	Staple, 10mm	4
	141 2 4729 05000	Staple, 5mm	8
	141 2 8549 03000	Spring, R/P Switch	1
S1	4 2319 72850	Slide Switch (Record/Play)	1
S2	4 2319 75591	Slide Switch (Mode)	1
S3	4 2319 73715	Push Switch (Phase)	1
S4	4 2319 74620	Leaf Switch (Power)	1
S5	4 2319 75840	Leaf Switch (Fast)	1
J1	4 2359 71800	Jack 4P	1
		(Mike, Earphone, Remote, Ext. Power)	
L1	4 2539 70030	RF Choke	1
P1	4 2229 72964	Potentiometer (B-2kΩ)	1
Q1	203 5 5100 69372	Transistor, 2SC 693	1
Q2	203 5 5100 69362	Transistor, 2SC 693	1
Q3	203 5 5100 53660	Transistor, 2SC 536	1
Q4	203 5 5100 53660	Transistor, 2SC 536	1
D1	202 5 9110 18820	Diode, 1S 188	1
D2	202 5 1330 01010	Bridge Diode DBB 10C	1
IC1	206 5 1084 14010	IC, LA 4140	1
IC2	206 5 1565 51111	IC, LA5511A	1
TH1	204 5 9000 00200	Thermister, SDT 20	1
C1	CA1 0 4100 M000V	Aluminum 0.1μF 10V ±20%	1
C2	CD2 2 763A 0001V	Electrolytic 220μF 6.3V	1
C3	CM3 9 3500 K00SV	Mylar 0.039μF 50V ±10%	1
C4	CD2 2 5500 0001V	Electrolytic 2.2μF 50V	1
C5	CD4 7 5250 0001V	Electrolytic 4.7μF 25V	1
C6	CC1 5 2500 KE00C	Ceramic 0.0015μF 50V ±10%	1
C7	CD2 2 763A 0001V	Electrolytic 220μF 6.3V	1
C8	CD4 7 5250 0001V	Electrolytic 4.7μF 25V	1
C9	CM8 2 3500 K00SV	Mylar 0.082μF 50V ±10%	1
C10	CM1 0 3500 K00SV	Mylar 0.01μF 50V ±10%	1
C11	CC3 3 2500 KE00C	Ceramic 0.0033μF 50V ±10%	1
C12	CC1 0 1500 KE00C	Ceramic 100pF 50V ±10%	1
C13	CM1 0 3500 K00SV	Mylar 0.01μF 50V ±10%	1
C14	CD2 2 5500 0001V	Electrolytic 2.2μF 50V	1
C15	CC3 3 2500 KE00C	Ceramic 0.0033μF 50V ±10%	1
C16	CC4 7 1500 KE00C	Ceramic 470pF 50V ±10%	1
C17	CD2 2 6100 0001V	Electrolytic 22μF 10V	1
C18	CM6 8 3500 K00SV	Mylar 0.068μF 50V ±10%	1
C19	CI1 0 3250 KE00C	Boundary 0.01μF 25V ±10%	1
C20	CD1 0 7100 0001V	Electrolytic 100μF 10V	1
C21	CD4 7 6100 0001V	Electrolytic 47μF 10V	1
C22	CD2 2 763A 0001V	Electrolytic 220μF 6.3V	1
C23	CD2 2 7100 0001V	Electrolytic 220μF 10V	1
C24	CD1 0 8100 0001V	Electrolytic 1000μF 10V	1
C25	CD1 0 8100 0001V	Electrolytic 1000μF 10V	1
C26	CC1 8 2500 KE00C	Ceramic 0.0018μF 50V ±10%	1
C27	CC4 7 3500 ZG00C	Ceramic 0.047μF 50V +80,-20%	1
C28	CC4 7 3500 ZG00C	Ceramic 0.047μF 50V +80,-20%	1
C29	CI2 2 3250 KE00C	Boundary 0.022μF 25V ±10%	1
C30	CI2 2 3250 KE00C	Boundary 0.022μF 25V ±10%	1
R1	RD1 0 2251 JN000	Carbon 1kΩ 1/4W ±5%	1
R2	RD2 2 2251 JN000	Carbon 2.2kΩ 1/4W ±5%	1
R3	RD4 7 2251 JN000	Carbon 4.7kΩ 1/4W ±5%	1
R4	RD2 2 2251 JN000	Carbon 2.2kΩ 1/4W ±5%	1
R5	RD1 5 3251 JN000	Carbon 15kΩ 1/4W ±5%	1
R6	RD3 9 3251 JN000	Carbon 39kΩ 1/4W ±5%	1
R7	RD4 7 3251 JN000	Carbon 47kΩ 1/4W ±5%	1
R8	RD1 0 5251 JN000	Carbon 1MΩ 1/4W ±5%	1
R9	RD4 7 0251 JN000	Carbon 47Ω 1/4W ±5%	1
R10	RD1 8 2251 JS000	Carbon 1.8kΩ 1/4W ±5%	1

Ref. No.	Part No.	Description	Q'ty
R11	RD1 0 2251 JN000	Carbon 1kΩ 1/4W ±5%	1
R12	RD1 0 3251 JN000	Carbon 10kΩ 1/4W ±5%	1
R13	RD8 2 2251 JN000	Carbon 8.2kΩ 1/4W ±5%	1
R14	RD4 7 2251 JN000	Carbon 4.7kΩ 1/4W ±5%	1
R15	RD2 2 2251 JN000	Carbon 2.2kΩ 1/4W ±5%	1
R16	RD6 8 2251 JN000	Carbon 6.8kΩ 1/4W ±5%	1
R17	RD1 0 4251 JN000	Carbon 100kΩ 1/4W ±5%	1
R18	RD1 0 2251 JN000	Carbon 1kΩ 1/4W ±5%	1
R19	RD3 9 3251 JN000	Carbon 39kΩ 1/4W ±5%	1
R20	RD1 0 0251 JN000	Carbon 10Ω 1/4W ±5%	1
R21	RD3 9 2251 JN000	Carbon 3.9kΩ 1/4W ±5%	1
R22	RD1 0 3251 JN000	Carbon 10kΩ 1/4W ±5%	1
R23	RD3 3 1251 JN000	Carbon 330Ω 1/4W ±5%	1
R24	RD1 0 1251 JN000	Carbon 100Ω 1/4W ±5%	1
R25	RD1 0 0251 JN000	Carbon 10Ω 1/4W ±5%	1
R26	RD2 2 1251 JN000	Carbon 220Ω 1/4W ±5%	1
R27	RD2 7 3251 JN000	Carbon 27kΩ 1/4W ±5%	1
R28	RD6 8 2251 JN000	Carbon 6.8kΩ 1/4W ±5%	1
R29	RD1 1 2251 JN000	Carbon 1.1kΩ 1/4W ±5%	1
R30	RD2 7 1251 JN000	Carbon 270Ω 1/4W ±5%	1
R31	RD5 6 1251 JN000	Carbon 560Ω 1/4W ±5%	1
R32	RD3 0 1251 JN000	Carbon 300Ω 1/4W ±5%	1
R33	RD1 2 2251 JN000	Carbon 1.2kΩ 1/4W ±5%	1
R34	RD3 9 2251 JN000	Carbon 3.9kΩ 1/4W ±5%	1
R35	RD3 3 2251 JN000	Carbon 3.3kΩ 1/4W ±5%	1
R36	RD5 6 2251 JN000	Carbon 5.6kΩ 1/4W ±5%	1
R37	RD3 3 3251 JN000	Carbon 33kΩ 1/4W ±5%	1
R38	RD1 0 3251 JN000	Carbon 10kΩ 1/4W ±5%	1

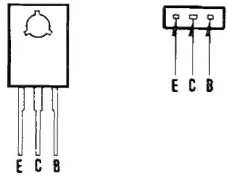
NOTES:

- Parts order must contain Model Number, Part Number and Description.
- Ordering quantity of screws and resistors must be multiple of 10 pcs.

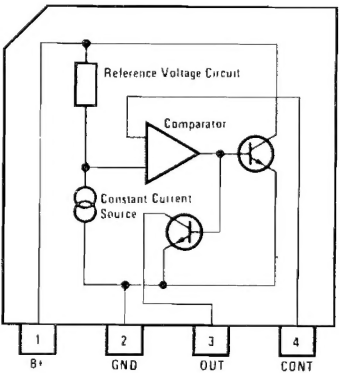
IC & TRANSISTOR LEAD IDENTIFICATION

TRANSISTOR	FRONT VIEW	BOTTOM VIEW
2SC693 2SC536		
TERMINAL NAME		
B → BASE C → COLLECTOR E → EMITTER		

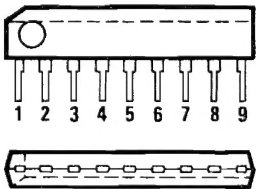
LA5511 FRONT/BOTTOM VIEWS



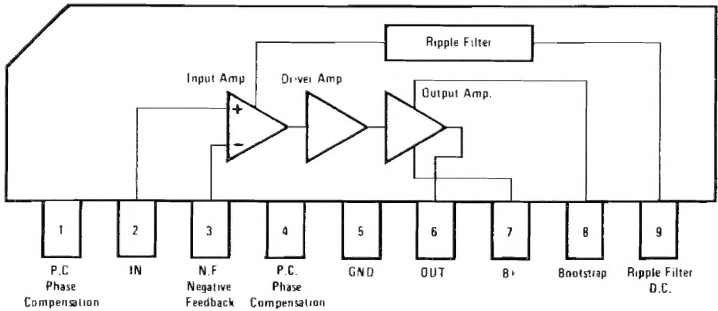
LA5511 BLOCK DIAGRAM



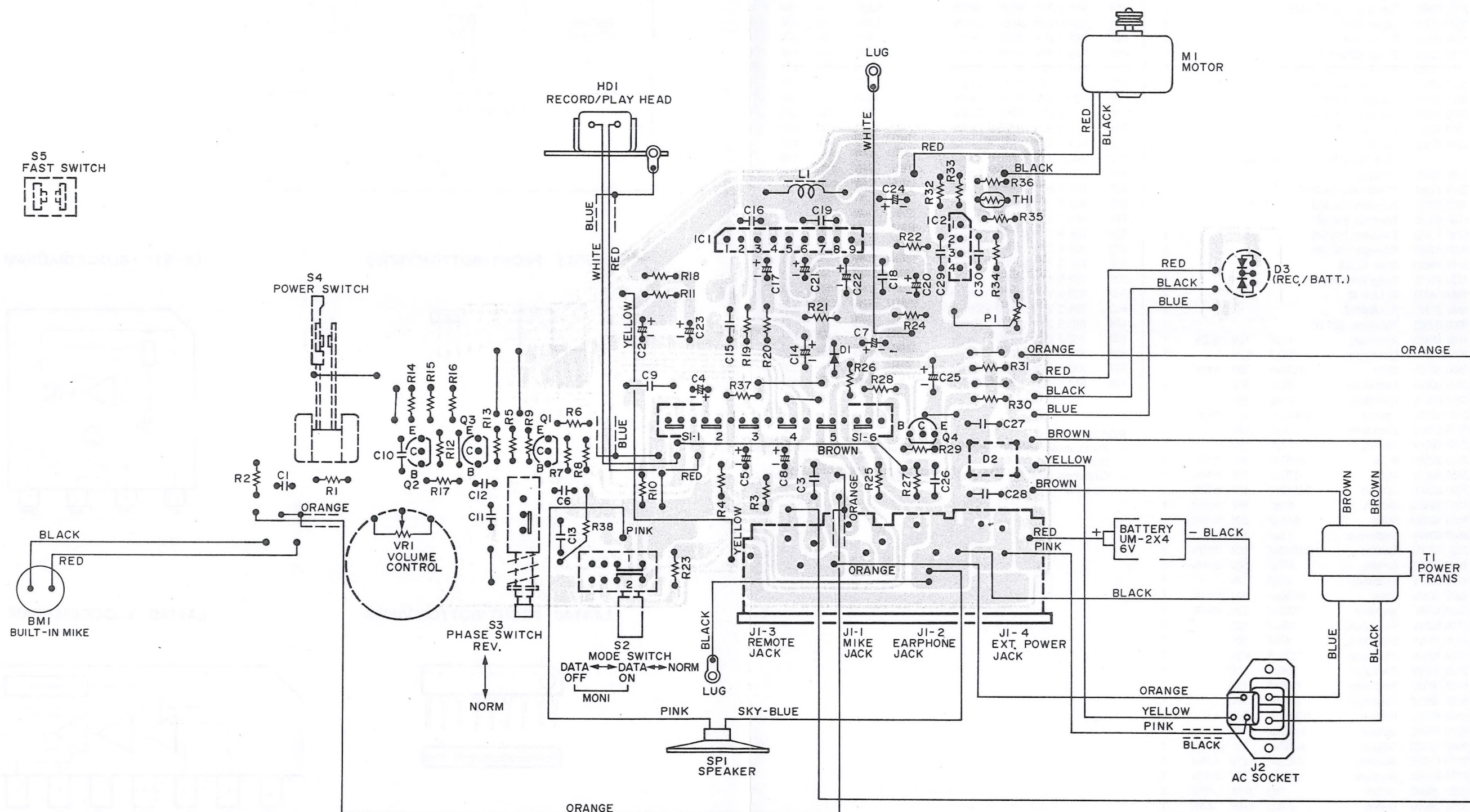
LA4140 FRONT/BOTTOM VIEWS



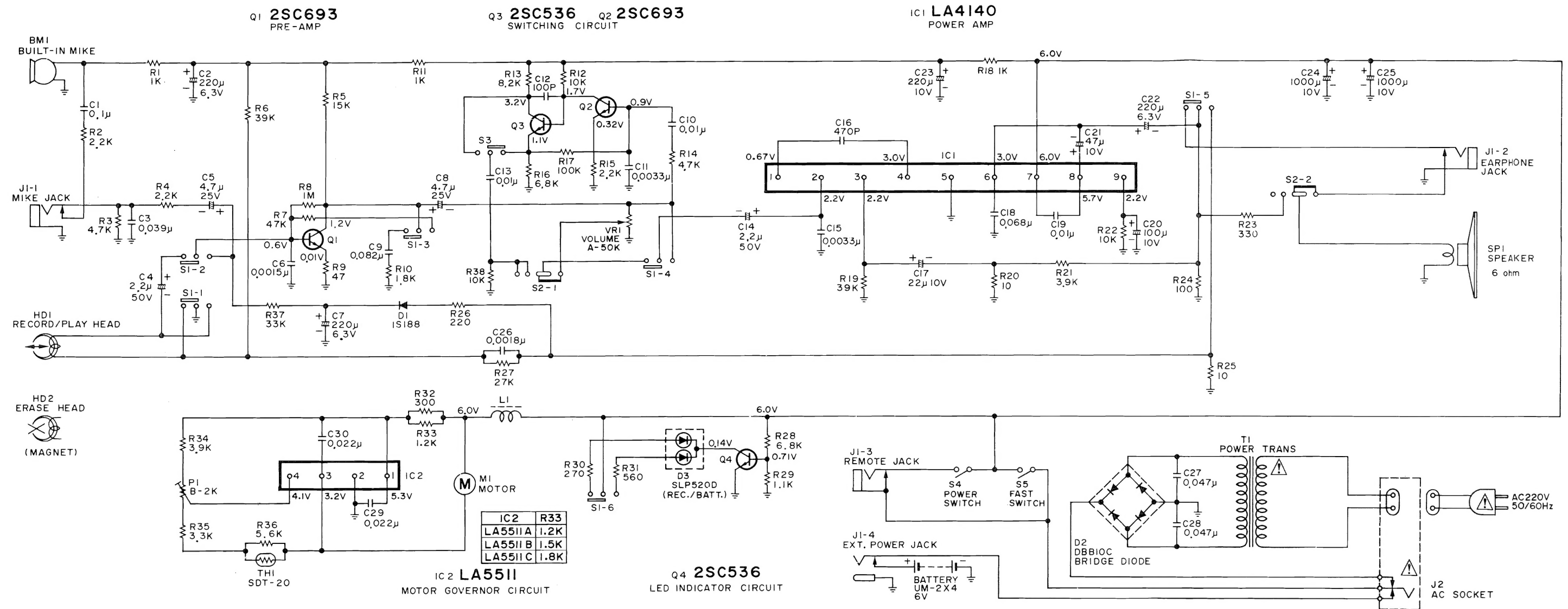
LA4140 BLOCK DIAGRAM



AMPLIFIER P.C. BOARD



SCHEMATIC DIAGRAM



No.	Name	Position
S1	Record/Playback Switch	PLAY
S2	Mode Switch	NORMAL
S3	Phase Switch	NORMAL
S4	Power Switch	OFF
S5	Fast Switch	OFF

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol Δ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with Δ , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.

Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.